

## LANGUAGE GUIDELINES FOR BIOLOGY

Item writing supplement for the High School Assessment

PROBLEM	EXAMPLE	REWRITE	GUIDELINE	COMMENT
<b>SEMANTICS</b>				
1) Complex or unfamiliar vocabulary not related to concept being tested	<p>⚡ counted progeny</p> <p>⚡ A geneticist</p> <p>⚡ Is apparent</p>	<p>⚡ counted offspring</p> <p>⚡ A scientist</p> <p>⚡ Seems to be/appears to be</p>	Replace less frequently used words with more commonly used words	Retain words appropriate to the Core Learning Goals for skills, processes and concepts
2) Vocabulary reflecting cultural assumptions or unfamiliar contexts	<p>⚡ House call</p> <p>⚡ Amusement park</p> <p>⚡ Soak up</p>		Replace culturally biased words and contexts with culturally neutral words, universal contexts	Retain essential technical terms and common words testing legitimate content
3) Inconsistent use of terminology	A student <u>crossed</u> two fruit flies to observe patterns of inheritance. The offspring of the <u>pairing</u> were counted. The ratio of dominant to recessive traits was 3:1. Which of these are the most likely genotypes of the parent flies which were <u>mated</u> ?	Marcia was studying patterns of inheritance in fruit flies. She <u>crossed</u> two fruit flies with different traits, and, then counted the different types of offspring. The ratio of dominant to recessive traits was 3:1. Which of these are the most likely genotypes of the parent flies?	Repeat nouns. Avoid indefinite pronouns (e.g., some, any) and synonyms. Check that all pronouns have clear antecedents.	Retain synonyms if purpose of item is to test synonym/ vocabulary knowledge. Avoid mixing table, chart and graph.
4) Overuse of synonyms	Juan had 8 grams of sugar on the scale. He added some more. Then the balance read 15 grams. How much was the weight increased by?	Juan put 8 grams of sugar on the balance. He added more sugar. Then the balance read 15 grams. How many grams of sugar did he add?		
5) Abstract or impersonal presentations	The weights of three objects were compared by the student.	Sandra compared the weights of three blocks of wood.	Make item stem more concrete and use proper name.	Balance gender and ethnicity when using names
6) Unnecessary expository material	DNA is a molecule in the shape of a double helix. It is able to reproduce an exact copy of itself and is important in cell reproduction. The genetic code in DNA is used to form protein molecules. Explain how the sequence of base pairs in DNA is related to the amino acids used in the synthesis of proteins.	The pairs of bases in a molecule of DNA contain the genetic code which is used to form protein molecules. Explain how the <u>sequence</u> of base pairs in DNA is related to the amino acids used in the synthesis of proteins.	Remove unnecessary expository material, i.e., remove excess words that are not necessary to set the context.	Test specifications require items to be set in a context, e.g. skills and processes set in a life science context.

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<b>SYNTAX</b>				
7) Conditional clauses and verb tenses	If some organisms are able to survive without oxygen in the human intestine, by what process are they able to obtain energy?	Some organisms are able to survive without oxygen in the human intestine. Which of these best describes the process by which these organisms obtain energy?	Replace conditional clauses with shorter separate sentences.	Can also reverse the order of the <i>if</i> clause and the main clause. Note: Conditional clause may be necessary for assessing knowledge of probability in genetics and prediction in reading.
8) Passive voice verb construction	A graduated cylinder was used.	René used a graduated cylinder.	Replace verbs in the passive voice with verbs in the active voice.	If using a proper name, balance the gender and ethnicity.
9) Unnecessarily long sentences or items, and compound-complex sentences			Reduce the number of words in a sentence or separate long sentences into shorter ones.	Reduce the number of sentences in an item. Try to use the Subject-Verb-Object order.
10) Unnecessarily long noun phrases	Maryland public health agency officials	Health officials	Reduce the number of modifiers in a noun phrase	
11) Complex question phrases or questions that do not begin with a question word.	At which of the following times...	When...	Replace complex question phrases with simple question words.	
12) Relative clauses	An experiment that produced 44 new plant seedlings...	Tom counted 44 new plant seedlings in his experiment.	Remove or restate relative clauses.	If using a proper name, balance gender and ethnicity.
13) Double negatives, negative question forms, and negative terms (e.g., no longer, hardly)	<del>Is not unlike</del> <del>Which of the following is not a mammal?</del> <del>Ecological studies are no longer restricted to the laboratory.</del>	<del>Is like</del> <del>Which of the following is a mammal?</del> <del>Ecological studies can be done outside the laboratory.</del>	Rephrase negatives in a positive form.	

PROBLEM	EXAMPLE	REWRITE	GUIDELINE	COMMENT
<b>OTHER</b>				
14) Latin names, common names			Latin Names are first in italics and the common English name is second, use commas to separate e.g. <i>Dinofilaria</i> , the heartworm of dogs	
15) Labels in text and tables don't match.			Be consistent when labeling tables <del>Use</del> Use the same terms as those in the narrative or stem <del>Use</del> Use CAPS for titles on tables, charts, and graphs In graphs or tables, include units in parentheses after the labels [e.g. Concentration (mg/L)].	
16) Descriptive material in parentheses is often overlooked by students.			Use commas rather than parentheses to further elaborate on terms or descriptions. "One kind of toxin, a chemical poison, inhibits the production of ATP."	